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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/550,955	04/17/2000	James Xanthos	2506-005	1674

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EXAMINER

GARY, ERIKA A

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/550,955

Applicant(s)

XANTHOS ET AL.

Examiner

Erika A. Gary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/13/04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-162 is/are pending in the application.
- 4a) Of the above claim(s) 141-143 and 156-162 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-26, 28-38, 80, 81, 89-96, 98-125, 127-140, 144-146, 149-153 and 155 is/are allowed.
- 6) ☒ Claim(s) 27, 39-79, 82-88, 97, 126, 147, 148 and 154 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen, US Patent Number 5,987,306 (hereinafter Nilsen).

As to claim 27, Nilsen discloses a method for measuring data quality of service in a traffic wireless network (see abstract) comprising the steps of: sending command information related to data quality of service measurements (see col. 4 lines 59-63); performing measurements to produce measurement information in relation to said command information (see col. 12 line 22 through col. 13 line 20); and receiving response information in relation to said measurement information and said command information (see col. 5 line 36 through col. 6 line 4, especially col. 5 lines 46-48).

Nilsen does not specifically teach accessing a portal from the Internet for said command and measurement information. However, Nilsen discloses that "said front end (FE) may be called up from any work station in the connected data network" (see col. 4 lines 63-65). Nilsen also teaches a TCP/IP connection. Therefore the Examiner takes Official Notice that it would have been obvious at the time of the invention to include a

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portal from the Internet to allow ease of use in accessing the command or measurement information.

3. Claims 39, 41-45, 47-51, 53, 55-73, 76, 78, 79, 83, 85-87, 147, 148, and 154 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen.

As to claim 42, Nilsen discloses a measuring system for measuring data quality of service on at least one traffic wireless network, comprising: a back end processor (FE, DBMS, and CeNAS in Fig. 1) for controlling the measuring system (see col. 4 lines 59-63); a plurality of remote units (MTU in Fig. 1) in communication with said back end processor via a control link (labeled ARFCN in Fig. 1), for performing measurements on the at least one traffic wireless network (see col. 12 line 22 through col. 13 line 20).

What Nilsen does not specifically disclose is including a portal for allowing customer access through the Internet. However, Nilsen discloses that "said front end (FE) may be called up from any work station in the connected data network" (see col. 4 lines 63-65). Nilsen also teaches a TCP/IP connection. Therefore the Examiner takes Official Notice that it would have been obvious at the time of the invention to include a portal from the Internet to allow ease of use in accessing the command or measurement information.

As to claim 39, Nilsen further discloses that said back end processor includes a fleet management element (FE) for managing said plurality of remote units (see col. 4 lines 52-58).

As to claim 41, Nilsen further discloses that said back end processor includes a post processor (result collector) for post processing data collected from said plurality of remote units (see col. 14 lines 3-18).

As to claims 44-45, Nilsen further discloses that each of said plurality of remote units includes a control unit, which is a portable computer (micro computer) for controlling said remote unit (see col. 6 lines 5-21).

As to claims 47-48, Nilsen further discloses that each of said plurality of remote units includes a location unit, which is a GPS receiver, for providing position information (see col. 6 lines 13-15).

As to claim 49, Nilsen further discloses that each of said plurality of remote units includes a control link modem for communicating via said control link with said back end processor (see col. 8 lines 19-20).

As to claim 50 Nilsen fails to explicitly describe using a CDPD link as part of the control link. However, the referencing of CDPD in the instant application (see page 20 lines 21-22, page 31 lines 4-5, 19-20), absent details of such or implementation of such, is construed as an admission that CDPD and the use of such was well known in the art at the time the invention was made.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's control link modem to use a CDPD link for the purpose of conforming to an industry standard, thereby broadening the applicability of the device.

As to claims 51, 57, 79, Nilsen fails to explicitly recite the use of software-defined radio in the control link modem, traffic link modem or RF scanner. The referencing of software-defined radio in the instant application (see page 30 lines 17-21, page 35 lines 7-9), absent details of such or implementation of such, is construed as an admission that the use of such was well known in the art at the time the invention was made. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's traffic modem, control link modem or RF scanner to include software-defined radio. One of ordinary skill in the art would have been motivated to make this modification because software-defined radio facilitates future modifications and enhancements.

As to claim 53, 55, 56, and 61, Nilsen further discloses that each of said plurality of remote units includes at least one traffic modem (test mobile) for performing said measurements on a respective traffic wireless network of the at least one traffic wireless network (see col. 6 lines 13-15 and see col. 21 lines 19-30, also see col. 20 lines 5-10 wherein Nilsen discloses that said test mobile is an Orbitel 901 cellular phone commonly known to be GSM compatible). Further as to claim 55, a test mobile is considered equivalent to a modem module.

As to claims 58-60, Nilsen discloses everything as applied to claims 1, 38 and 89 above. In addition, Nilsen discloses that the system may be used for analogous networks (see col. 18 lines 41-45). However, Nilsen fails to explicitly disclose using the system in iDEN, CDMA, TDMA, or AMPS networks. The referencing of iDEN, CDMA, TDMA and AMPS in the instant application (see page 20 lines 21-22, page 31 lines 4-5;

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19-20), absent details of such or implementation of such, is construed as an admission that the use of such was well known in the art at the time the invention was made.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's system to work in these types of networks. One of ordinary skill in the art would have been motivated to make this modification because it broadens the applicability of the system for use in industry standard networks.

As to claims 62, 64-68, and 154, Nilsen discloses everything as applied to claims 1, 38 and 89 above. In addition, Nilsen discloses that the measurements performed by the remote units are not limited to those explicitly listed (see col. 2 lines 17-22 and col. 12 lines 22-24 wherein Nilsen uses the word "comprise").

Moreover, the referencing of measurements related to: circuit switched data, SMS messages, wireless Internet access, wireless Internet transactions, e-commerce transactions, push data, PDA traffic, GSM related information, CDPD traffic, or private data network traffic/access in the instant application (see page 56 lines 5-22), absent details of such or implementation of such, is construed as an admission that making such measurements was well known in the art at the time the invention was made.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's system to include these types of measurements. One of ordinary skill in the art would have been motivated to make this modification because it broadens the applicability of the system to perform measurements related to commonly known messages.

As to claim 63, it is well known to produce measurement information related to packet data.

As to claims 69-73, Nilsen further discloses that said measurements include latency (see col. 12 lines 40-42), data reliability (equivalent to bit error rate - see col. 2 lines 17-22) Layer 3 network information (see col. 12 lines 43-47), RF information (see col. 12 lines 30-39), and call connection information (see col. 12 lines 25-29).

As to claim 76, Nilsen further discloses that each of said plurality of remote units (MTU) includes an internal storage for storing at least one of said measurements (see col. 6 lines 5-12). Although Nilsen refers to this storage as being internal, it is considered to be external to essential components of the remote unit, and therefore the Office also considers it to be external storage.

However, Nilsen fails to explicitly recite using external storage for such purposes.

As to claim 78, Nilsen further discloses that each of said plurality of remote units (MTU) includes an RF scanner for measuring the at least one traffic wireless network (see col. 12 lines 30-35).

As to claim 83, Nilsen further discloses that at least one of said plurality of remote units is mobile (see col. 3 lines 50-53).

As to claim 85-87, Nilsen further discloses that said control link is wired (see col. 4 lines 59-63, see wired link between FE and FTU in Fig. 1) and wireless (see the two-way link labeled ARFCN in Fig. 1).

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As to claim 147, Nilsen discloses everything as applied to claims 53 and 89 above. However, Nilsen fails to explicitly recite the use of a CDPD modem as the at least one traffic modem.

The referencing of a CDPD modem in the instant application (see page 20 lines 21-22, page 31 lines 4-5, 19-20), absent details of such or implementation of such, is construed as an admission that the use of such was well known in the art at the time the invention was made.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's traffic modem to be a CDPD modem. One of ordinary skill in the art would have been motivated to make this modification for the purpose of conforming to an industry standard, thereby broadening the applicability of the device.

As to claim 148, Nilsen fails to explicitly recite the use of a PDA modem as the at least one traffic modem.

The referencing of a PDA modem in the instant application (see page 56 line 22), absent details of such or implementation of such, is construed as an admission that the use of such was well known in the art at the time the invention was made.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's traffic modem to be a PDA modem. One of ordinary skill in the art would have been motivated to make this modification for the purpose of broadening the applicability of the remote unit to include PDA devices.

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4. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen in view of Gulledge (U.S. Patent Number 5644623).

Nilsen discloses that said control unit is a micro computer (see col. 6 lines 13-15) and that making the remote unit suitably small is desirable (see col. 6 lines 18-21). However, Nilsen fails to explicitly recite that the control unit is a single board computer.

In an analogous art, Gulledge discloses, in Figures 1 and 2, a similar system having remote units (1 in Fig. 1) comprising control units (9 in Fig. 2) wherein, said control unit is a single board computer (see col. 5 lines 47-52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's control unit to be a single board computer, as taught by Gulledge. One of ordinary skill in the art would have been motivated to make this modification in order to make the control unit smaller.

5. Claims 40, 52, 74, 82 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen in view of Sant et al. (U.S. Patent Number 6169896).

As to claim 40, Nilsen fails to explicitly recite that said back end processor includes a test traffic generator for generating test traffic for said plurality of remote units.

In an analogous art, Sant discloses, in figure 3 a similar system wherein a back end processor (30) includes a test traffic generator for generating test traffic for a remote unit (see col. 5 lines 31-58).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's back end processor to include a test traffic generator. One of ordinary skill in the art would have been motivated to make this modification in order to provide control over the standard for comparing various measurements.

As to claim 52, Nilsen discloses that the MTU comprises means for implementing a wired modem (serial line and PCMCIA disk - see col. 20 lines 5-15).

However, Nilsen fails to explicitly recite that said control link modem is a wired modem.

In an analogous art, Sant discloses, in Figure 3, a similar system for evaluating quality of service wherein the control link modem for communicating with a back end processor (20) is a conventional wired modem (24) (see col. 4 lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's control link modem to be a wired modem, as taught by Sant. One of ordinary skill in the art would have been motivated to make this modification because wired modems can transfer large quantities of data much faster than wireless modems.

As to claim 74, Nilsen fails to explicitly recite that each of said plurality of remote units includes a plurality of traffic modems.

In an analogous art, Sant discloses, in Figure 2, a similar system for evaluating quality of service wherein the remote unit includes a plurality of traffic modems (12a and 12) for performing measurements on at least one traffic wireless network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's remote units to include a plurality of traffic modems, as taught by Sant. One of ordinary skill in the art would have been motivated to make this modification in order to generate a side-by-side comparison of various networks' performance (see col. 2 line 66 through col. 3 line 6 of Sant).

As to claims 82 and 84, Nilsen fails to explicitly recite that at least one or substantially all of the remote units in a geographic area are stationary.

In an analogous art Sant et al. discloses a similar system for evaluating quality of service wherein the remote units are fixed or stationary (see col. 7 lines 41-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's remote units to be stationary, as taught by Sant et al. One of ordinary skill in the art would have been motivated to make this modification in order to broaden the applicability to various other wireless networks such as wireless local loop.

6. Claim 77 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen in view of Kikinis (U.S. Patent Application Publication Number 2002/0015398).

Nilsen discloses that said sending and receiving steps use a wireless link and that the back end processor is part of a LAN (see col. 8 lines 10-20). However, Nilsen fails to explicitly recite that said remote unit comprises a wireless LAN device for communicating with said back end processor.

In an analogous art, Kikinis discloses a system for measuring data quality of service (see abstract) wherein a remote unit (100-600 in Fig. 1) comprises a wireless LAN device for communicating in a network (see paragraph 77).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's remote unit to include a wireless LAN device for communicating with said back end processor. One of ordinary skill in the art would have been motivated to make this modification in order to broaden the applicability of Nilsen's system to include wireless LAN's.

7. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen in view of Barringer (U.S. Patent Number 5675371).

Nilsen is silent as to what particular power supply is used in the remote units. In an analogous art, Barringer discloses remote units having battery backup.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nilsen's remote units to include battery backup in order to extend the life of the power supply.

8. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen.

As to claim 54, Nilsen discloses a measuring system for measuring data quality of service on at least one traffic wireless network, comprising: a back end processor (FE, DBMS, and CeNAS in Fig. 1) for controlling the measuring system (see col. 4 lines

59-63); a plurality of remote units (MTU in Fig. 1) in communication with said back end processor via a control link (labeled ARFCN in Fig. 1), for performing measurements on the at least one traffic wireless network (see col. 12 line 22 through col. 13 line 20).

Nilsen further discloses that each of said plurality of remote units includes at least one traffic modem (test mobile) for performing said measurements on a respective traffic wireless network of the at least one traffic wireless network (see col. 6 lines 13-15 and see col. 21 lines 19-30, also see col. 20 lines 5-10 wherein Nilsen discloses that said test mobile is an Orbitel 901 cellular phone commonly known to be GSM compatible)

Nilsen fails to specially disclose that the respective traffic modem of said at least one traffic modem is said control link modem. However, the Examiner takes Official

Notice that it would have been obvious to one of ordinary skill in the art to perform this modification, as it is well known to reduce the number of components in a system by having one component perform multiple functions.

9. Claim 88 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen.

As to claim 88, Nilsen discloses Nilsen discloses a measuring system for measuring data quality of service on at least one traffic wireless network, comprising: a back end processor (FE, DBMS, and CeNAS in Fig. 1) for controlling the measuring system (see col. 4 lines 59-63); a plurality of remote units (MTU in Fig. 1) in communication with said back end processor via a control link (labeled ARFCN in Fig. 1), for performing measurements on the at least one traffic wireless network (see col. 12 line 22 through col. 13 line 20).

What Nilsen does not specifically disclose is that the control link uses a wireless standard in relation to a geographic area of the associated remote unit. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a wireless standard in relation to a geographic area of the associated remote unit in order to communicate using the appropriate protocol.

10. Claim 97 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen.

As to claim 97, Nilsen discloses a remote unit (MTU) which is one of a plurality of remote units, that communicates with a back end processor (FE, DBMS, and CeNAS in Fig. 1), for measuring data quality of service on at least one traffic wireless network, comprising: a control unit (micro computer) for controlling said remote unit; a location unit (GPS receiver) for providing position information', a control link modem (built in modem) for communicating via a control link with the back end processor; and at least one traffic modem (test mobile) for performing measurements on a respective traffic wireless network of the at least one traffic wireless network (see col. 6 lines 13-15, and col. 19 line 63 through col. 20 line 15).

Nilsen fails to specially disclose that the respective traffic modem of said at least one traffic modem is said control link modem. However, the Examiner takes Official Notice that it would have been obvious to one of ordinary skill in the art to perform this modification, as it is well known to reduce the number of components in a system by having one component perform multiple functions.

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11. Claim 126 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen.

As to claim 126, Nilsen discloses a remote unit (MTU), which is one of a plurality of remote units that communicates with a back end processor (FE, DBMS, and CeNAS in Fig. 1), for measuring data quality of service on at least one traffic wireless network, comprising: a control unit (micro computer) for controlling said remote unit; a location unit (GPS receiver) for providing position information; a control link modem (built in modem) for communicating via a control link with the back end processor; and at least one traffic modem (test mobile) for performing measurements on a respective traffic wireless network of the at least one traffic wireless network (see col. 6 lines 13-15, and col. 19 line 63 through col. 20 line 15).

What Nilsen does not specifically disclose is that the control link uses a wireless standard in relation to a geographic area of the associated remote unit. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a wireless standard in relation to a geographic area of the associated remote unit in order to communicate using the appropriate protocol.

Response to Arguments

12. Applicant's arguments filed August 13, 2004 have been fully considered but they are not persuasive.

Regarding claims 27 and 42, Applicant argues the obviousness of the recited portal limitation. However, the Examiner contends that this limitation is obvious over Nilsen. Nilsen specifically states that "said front end (FE) may be called up from any

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work station in the connected data network" (col. 4: lines 63-65). Nilsen also teaches that the network has TCP/IP connection. Therefore, one of ordinary skill in the art would conclude that the measurement information could be accessed using a portal from the Internet.

Regarding claims 54 and 97, Applicant argues the obviousness of using one modem to perform the functions of two modems. The Examiner contends that it is well known in the art to reduce the number of components in a system. It has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

Regarding claims 88 and 126, Applicant argues the obviousness of the control link using a wireless standard in relation to a geographic area of the associated remote unit. The Examiner contends that this is obvious. For example, if a dual mode (analog and digital) unit is in a geographic area that only has analog service, the unit will use the analog service because that is the wireless standard used in that particular area. Also, please see Farris et al., US Patent Number 6,167,253, col. 12: lines 50-53.

Allowable Subject Matter

13. Claims 1-26, 28-38, 80, 81, 89-96, 98-125, 127-140, 144-146, 149-153 and 155 are allowed.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Farris et al., US Patent Number 6,167,253.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EAG
December 15, 2004


ERIKA A. GARY
PRIMARY EXAMINER